DOCUMENT RESUME

ED 240 614 CS 208 190

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TITLE Sequencing Writing Tasks on the Basis of Their Cognitive Demands.
PUB DATE Nov 83
NOTE 8p.; Paper presented at the Annual Meeting of the National Council of Teachers of English (73rd, Denver, CO, November 18-23, 1983).
PUB TYPE Reports - Research/Technical (143) -- Speeches/Conference Papers (150)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Cognitive Development; *Cognitive Processes; *Critical Thinking; Expository Writing; Higher Education; Persuasive Discourse; *Sequential Learning; *Writing Exercises; Writing Instruction; *Writing Research; Writing Skills
IDENTIFIERS Reading Writing Relationship; *Summary Writing

ABSTRACT

An examination of student papers from three universities on the same tasks revealed that expository writing tasks were less demanding cognitively than argumentative writing tasks and that argumentative writing tasks were less demanding than speculative tasks. Another finding was that when students were able to translate a generalized task into personally meaningful problems, they used more sophisticated strategies. These findings suggest that writing tasks should be designed sequentially to stimulate students to operate on cognitive levels that challenge their thinking and engage their interest so that they will be motivated to draw upon the resources they possess. Summary writing offers such potential. Students can be shown that summaries have "cognitive levels" that can be related to the use of reading materials as sources for developing their ideas. Summaries at the restatement level, which draw on the text's actual language, are analogous to the use of direct quotations in their writing. Summaries at the descriptive level, which follow sequentially the text's main arguments, are related to the use of paraphrase in their writing. And summary writing at the analytic level, which requires students to take arguments apart to see how they are constructed, prepares them to view the reading texts critically and to use them as take-off points in exploring their own thinking. (HOD)

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Sequencing Writing Tasks on the Basis of their Cognitive Demands

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Sequencing Writing Tasks on the Basis of their Cognitive Demands

The issue of the relationships between thinking processes and writing processes is in ascendancy today. It has become as popular to talk about cognition today as it was to talk about the basics a few years ago. However, unlike the discussions of the basics, the discussions of cognitive processes have become more and more complex. Rather than discuss the models and the questions about them, let me raise just a few of the dimensions that need to be taken into consideration when we talk about taking cognitive processes into consideration in designing writing tasks. (Some of these issues bear directly on reading-writing relationships, while others have more to do with students' individual interactions with particular tasks.)

- Does the student perceive the task as one calling for problem-solving skills? That is, does the student even recognize, as Joe Williams has pointed out, that the terms "describe" or "analyze," for example, still require the student to identify a point that he or she wishes to make?
- Is the student able to transform the task into one that is personally motivating so as to foster critical and creative thinking?
- Is the student ready in terms of his or her zone of proximal development, to use Vygotsky's term, to be stimulated by the task?
- Does the student use outside sources in a way appropriate to the needs of readers?
- Does the student know how to handle the processes of analysis and synthesis? Does the student see the significance in the relationships being asserted?
- When using outside materials, does the student rely innordinately on direct quotations? Does the student understand how and when to use paraphrasing? Can the student use outside reading materials as a take-off point for his or her own insights on the topic being dealt with?
- What levels and types of generalizations are students using in their writing? Are generalizations supported by details that are interpreted, assessed and evaluated?
- Does the student use the cognitive strategies of inferencing and generalizing and speculating? Can the student formulate meaningful hypotheses?

This list just begins to enumerate some complex issues that have to be faced when one wishes to design a series of writing tasks that will foster cognitive growth. In the limited time that I have available here, I would like to take a few of these items and discuss how students' level of cognitive operations influences their responses to different types of tasks. Clearly, the latest research in cognitive theory indicates to us that the rigid stage models of cognitive development are no longer so highly regarded. We are beginning to see that students do indeed operate at different levels in response to different experiences in their environment at the same time. However, abstract writing tasks at the college level have not always given them the opportunity to demonstrate the full range of their critical thinking abilities.

If we think of the notion of sequencing writing tasks as an opportunity to foster more critical thinking, we must immediately ask ourselves whether the types of tasks we have traditionally been offering have encouraged different levels of thinking. In a recent study I carried out, examining papers from three universities on the same tasks, I found that expository writing tasks were less demanding cognitively than argumentative writing tasks and that argumentative writing tasks were less demanding cognitively than speculative tasks. Now, what does that mean? That means that writers were less stimulated to respond at abstract levels of reasoning on the expository task than on the other two types. One of the criticisms often offered about such a statement is that students often produce generalizations in their writing, but these generalizations are rarely developed by thoughtful statements of support. So, in fact, it is impossible to "count" generalizations as any valid measure without examining the statements of support and analysis for the quality of that support and analysis. It is important to look at both the generalizations and the ways in which

the supporting statements are explained, interpreted, assessed, and evaluated. Some examples of student writing can best illustrate this notion.

In a paper calling for expository development, a common student pattern was for the writer to make an explanatory statement, follow it with a report statement, and then follow this with a statement of inference or assessment:

> Miss Ullmann writes in her essay as if she has no loneliness and emptiness, but in some way they exist. She has many people surrounding her day after day, Hairdresser, Make-up man, and dresser are never more than a few steps away from her. Reporters and old friends always try to fit into her busy schedule. But underneath all the fame and fortune, there shows a woman who yearns for her past.

In responding to argumentative tasks, students were more likely to go beyond assessment of individual arguments at the sentence level to make use of overall evaluation of their ideas. Student writers often concluded their papers by summarizing and evaluating the arguments they had made:

> I feel that a college education is the best way for me to improve myself. Non-monetary values, better-paying jobs than high school graduates, and a well-founded education are the major reasons I attend college. As a student, I know that attending college is the best way for me to improve myself.

Only when urged by the nature of the task itself did it occur to the student writers in this study to speculate about issues. On the subject of the family of the year 2000, one student wrote:

> Can the nuclear family still remain the most important institution in American society without any serious changes? One possibility is communal life. This alternate living style gives the partners freedom to express themselves much more openly than in a single partner relationship. Another alternate plan would be the complete termination of family life. Finally, the nuclear family could remain the same with only a few minor changes.

What these few samples of student writing illustrate is that as the cognitive demands of the tasks shift, the students respond with cognitive strategies that they doubtless possessed all along but were not called upon to produce in the previous tasks. So just as we are beginning to understand

that individuals operate at different cognitive levels in their everyday life experiences depending upon the familiarity of the activities and the demands being made upon them, so also our students demonstrate to us the same range of capabilities depending on the basis of the familiarity and the types of demands we make upon them in the classrooms.

One of my earlier questions in relation to cognitive sequencing was, Is the student able to transform the task into one that is personally motivating so as to foster critical and creative thinking? A surprising, because unexpected outcome of my study, was to find that when a particular student was able to translate a generalized task into a problem that was personally meaningful to him or her, the types of cognitive strategies used by the writer became increasingly sophisticated.

In one case study, the writer develops her expository paper with a series of empty and unsupported generalizations. It is clear that she has no commitment to the task at hand:

> In today's society, it is a thrill to have finally accomplished a set goal in life that has taken much time and patience of an individual. A person never quite fully realizes that while attaining this goal a loss has also occurred. No matter how great the loss may seem to a person, the gaining is quite satisfactory...

In her argumentative paper, on the value of a college education, the writer follows this perfunctory pattern until she begins to examine her own experiences and in the process replace the bland generalizations that preceded this section with those experiences. When this shift occurs, the writer begins to explain her experiences more concretely and to assess their significance for her future life, a cognitive operation untouched in her earlier generalizations:

> ...I know that a college degree may not guarantee me a good job, but the lack of one can bar me from even being considered for certain positions. I did not actually have to go to college. My goal in life is to become a respiratory therapist. There

> was another alternative for an education available to me in this profession. I could have attended a two year program and received an associate degree in respiratory therapy and become a respiratory technician. I soon discovered that if I were to attend a four-year college I could become a respiratory therapist, not just a technician. The difference between a four-year program and a two-year program in this field of work is the amount of money involved, the advancement opportunities, and the better quality of the job. I firmly believe that a college degree will aid me in obtaining a financially stable future.

Now, I am obviously not touting this as a superior piece of freshman writing. The point I am trying to make is that as a result of moving beyond bland indifference to some application of the topic to the writer's own life and circumstances, this student has demonstrated the use of inference, assessment and evaluation in support of her generalizations rather than letting these assertions sit there empty and undeveloped, merely repeated, as in her earlier writing.

From a reading-writing perspective, these issues relate to the role of reading in the composition classroom. It has become commonplace to say that readers absorb schemas for different genres as they read, and that they have these schemas available to draw upon in their formulations of writing. But beyond that "knowing" of forms, students use outside readings as sources for factual information and they must practice the processes of analysis and synthesis in the creation of written pieces. They must take into account the extent to which source materials are shared by readers and writers so that they write at the appropriate level of explicitness. Furthermore, students need to be shown how reliance on direct quotations can result in ungainly papers where quotations are strung together with short transitional statements that reflect no cognitive processing by the writer. Appropriate use of paraphrasing can be illustrated, but primarily outside readings should be used as take-off points for students to explore their own thinking about similar topics.

If summary writing is taught as part of the composition curriculum, students can be shown that summaries have "cognitive levels" that can be related to the use of reading materials as sources for development of their ideas. Summaries at the restatement level which draw on the actual language of the text being summarized are analogous to the use of direct quotations in their writing. Summaries at the descriptive level which follow sequentially the main arguments of the text being summarized are related to the use of paraphrase in their own writing. And summary writing at the analytic level, which requires students to take arguments apart to see how they are constructed, prepares them to view the reading texts critically and to use them as take-off points for the exploration of their own thinking.

In brief, tasks for writing should be designed sequentially so that they stimulate students to operate on cognitive levels that will challenge their thinking while simultaneously engaging their interest so that they are motivated to draw upon the resources they possess and challenged to reach for new ways of speculating and hypothesizing that have not been previously demanded of them. In such classrooms there will be no students classified as concrete or formal thinkers, but only a community of searchers seeking new explorations of their own ideas.